CLAIMS

1) A recombinant adenovirus which can be obtained from a replicating adenovirus by deleting all or part of the region of the genome of said replicating adenovirus corresponding to that located between positions 311 and 499 in the genome of type 2 canine adenovirus (GenBank J04368), with said deletion comprising all or part of the region of the genome of the original replicating adenovirus corresponding to that located between positions 311 and 401 in the genome of type 2 canine adenovirus.

2) A recombinant adenovirus as claimed in claim 1, characterized in that the deleted portion consists of all or part of the region of the genome of the original replicating adenovirus corresponding to that located between positions 311 and 319 in the genome of type 2 canine adenovirus.

3) A recombinant adenovirus as claimed in claim 1, characterized in that the deleted portion comprises all or part of the region of the genome of the original replicating adenovirus corresponding to that located between positions 318 and 401 in the genome of type 2 canine adenovirus.

4) A recombinant adenovirus as claimed in claim 3, characterized in that the deleted portion additionally comprises:

- all or part of the region of the genome of the original replicating adenovirus corresponding to that located between positions 311 and 319 in the genome of type 2 canine adenovirus; and/or
- all or part of the region of the genome of the original replicating adenovirus corresponding

to that located between positions 400 and 439 in the genome of type 2 canine adenovirus; and/or

- all or part of the region of the genome of the original replicating adenovirus corresponding to that located between positions 438 and 499 in the genome of type 2 canine adenovirus.

5) A recombinant adenovirus as claimed in any one of claims 1 to 4, characterized in that it additionally comprises a heterologous sequence of interest inserted in its genome.

6) A recombinant adenovirus as claimed in claim 5, characterized in that said heterologous sequence is inserted in the region of the genome corresponding to that located between positions 311 and 319 in the genome of type 2 canine adenovirus.

7) A recombinant adenovirus as claimed in any one of claims 1 to 6, characterized in that it is derived from a type 2 canine adenovirus.

8) A nucleic acid molecule, characterized in that it is selected from the group consisting of:

a) a nucleic acid molecule representing the genome of a recombinant adenovirus as claimed in any one of claims 1 to 7, and

b) a nucleic acid molecule which consists of a fragment of the molecule a) above and which comprises between 10 and 1000 bp, preferably at least 300 bp, of the sequence of the original replicating adenovirus located upstream of the deleted portion and between 10 and 5000 bp, preferably between 10 and 1000 bp, preferably

at least 300 bp, of the sequence of the original replicating adenovirus located downstream of the deleted portion.

9) A plasmid, characterized in that it comprises a nucleic acid molecule as claimed in claim 8.

10) A recombinant adenovirus as claimed in any one of claims 1 to 7 for use as a drug.

11) The use of a recombinant adenovirus as claimed in any one of claims 1 to 7 for preparing a drug which is intended for gene therapy.

12) The use of a recombinant adenovirus as claimed in any one of claims 1 to 7 for preparing a drug which is intended for treating cancer.

13) The use of a recombinant adenovirus as claimed in any one of claims 1 to 7 for preparing an immunogenic or vaccinatory composition.

14) The use as claimed in any one of claims 11 to 13, characterized in that said drug or said composition is intended to be administered to a domestic or wild carnivore.

15) The use as claimed in any one of claims 11 to 13, characterized in that said drug or said composition is intended to be administered to humans.

16) A method for preparing a recombinant adenovirus by means of intermolecular homologous recombination in a prokaryotic cell, characterized in that it comprises the following steps:

α) introducing, into said prokaryotic cell: (i) a plasmid comprising the genome of an adenovirus

and a first selection gene; and (ii) a previously linearized DNA fragment which comprises a heterologous sequence flanked by sequences which are homologous to those flanking the site of said plasmid where the insertion is to be effected and which includes a second selection gene which differs from the first; and

β) culturing said prokaryotic cell under selective conditions in order to make it possible to generate and select cells which harbor recombinant plasmids which are expressing the first and second selection genes, and

γ) isolating the genome of said recombinant adenovirus from selected prokaryotic cells.

17) The method as claimed in claim 16, characterized in that the plasmid employed in step α) is in circular form.

18) The method as claimed in claim 16, characterized in that the plasmid employed in step α) has been previously linearized by being cleaved at a restriction site which is located outside the insertion site.

19) The method as claimed in any one of claims 16 to 18, characterized in that said second selection gene is flanked by 2 identical or different restriction sites which are absent from the genome of the adenovirus which is included in the plasmid employed in step α).

20) The method as claimed in any one of claims 16 to 19, characterized in that it comprises an additional step of transfecting said recombinant genome into a cell line which enables said genome to be amplified and encapsidated in infectious viral particles.

21) The use of a recombinant adenovirus as claimed in any one of claims 1 to 7 for producing recombinant proteins.